



IDAHO DEPARTMENT OF HEALTH & WELFARE  
DIVISION OF PUBLIC HEALTH

# Disease Bulletin

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- Syphilis outbreak in Idaho
- Questions about Zika virus testing
- Invasive Group A *Streptococcus*

## Ongoing Syphilis Outbreak in Idaho; preventive treatment delays, severe outcomes

Investigation of an ongoing outbreak of early syphilis in Idaho's Treasure Valley has identified delays in preventive treatment which can contribute to spread of syphilis in the community and lead to serious health complications. Exposures have occurred outside of the Treasure Valley, from eastern Oregon through southern, southeastern, and eastern Idaho; therefore, healthcare providers in these areas are advised to be alert for syphilis cases and possible case contacts. As a result of this outbreak, Southwest District Health (SWDH) and Central District Health Department (CDHD) expanded recommendations for testing pregnant women.

During 2015, reports of early syphilis (including primary, secondary, and early latent stages) among residents of Central and Southwest Public Health Districts increased substantially. During January 1, 2015 through January 31, 2016, 81 cases of early syphilis associated with this outbreak\* have been reported, compared with just 24 cases statewide during 2014 and the outbreak appears to be ongoing. Cases have occurred in persons aged 17–55 years (median, 31 years), and in both men (84%) and women (16%). Two cases of ocular syphilis, usually a rare condition (see Box 1) have been linked to this outbreak.

The community of men who report having sex with other men (MSM) has been affected disproportionately in this outbreak: 40 (49%) of 81 early syphilis cases were diagnosed in men who reported only sex with other men and an additional 6 (7%) were in men who reported sex with both men and women. Similar to national trends demonstrating high proportions of HIV co-infection among MSM syphilis cases<sup>4</sup>, HIV co-infection in this outbreak was reported among 16 (35%) of the 46 MSM cases. Men and women who reported only heterosexual partners have also been affected by

this outbreak: among the 81 cases, 16 (20%) cases were in men who reported sex only with women and 12 (15%) cases were in women who reported sex only with men. Sexual risk was not defined for 7 (8.6%) cases (6 men and 1 woman).

Evidence of deferral or delay in preventive treatment for at least 10 persons exposed to syphilis came to light during case investigations; two candidates for preventive treatment based on a known exposure to syphilis, later received a diagnosis of syphilis themselves. The public health investigation team advises providers to mitigate barriers to access and advocate strongly with patients exposed to syphilis to receive preventive treatment as soon as possible and in accordance with CDC treatment guidelines, to cure incubating infection.<sup>3,5</sup> Missed opportunities for preventive treatment can result in untreated infections, and the potential for transmission to others with potentially serious outcomes, including congenital infection and adverse permanent sequelae associated with later stages of syphilis.

All persons at increased risk for syphilis should be tested in accordance with CDC guidelines (see Box 2 on next page).<sup>3</sup> Because women are part of this ongoing outbreak, this is a reminder, that all pregnant women should be tested in the first trimester; those at increased risk for infection should be tested again in the third trimester and at delivery. This outbreak has prompted public health investigators to recommend expanded testing of high-risk pregnant women for syphilis during the third trimester and at delivery, to include women with multiple sexual partners, current alcohol or substance abuse, or a diagnosis of another STD.

\*Outbreak-associated definition: Cases of early syphilis diagnosed among residents of CDHD or SWDH on or after January 1, 2015, and infected case contacts, regardless of geographic area.

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### BOX 1. OCULAR SYPHILIS

Ocular involvement of syphilis (ocular syphilis) is a clinical presentation of syphilis that can occur during any stage of syphilis infection and can result in serious outcomes including blindness.

Two instances of ocular syphilis have been reported in Idaho in the past two years. In both cases, ocular syphilis occurred during early infection and was the first manifestation of disease. CDC has issued a clinical advisory<sup>1</sup> about ocular syphilis following reported increases in several large cities.<sup>2</sup>

Clinicians should remain vigilant for this condition and screen for visual complaints in any patient at risk for syphilis. Ocular syphilis cases should be managed according to treatment recommendations for neurosyphilis.<sup>3</sup>

### References

- <sup>1</sup> Centers for Disease Control and Prevention. "Clinical Advisory: Ocular Syphilis in the United States." Web. Updated March 24, 2016. <http://www.cdc.gov/std/syphilis/clinicaladvisoryos2015.htm>.
- <sup>2</sup> A Cluster of Ocular Syphilis Cases—Seattle, Washington and San Francisco, California, 2014–2015. MMWR Oct 16, 2015/54(40):1150 <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6440a6.htm>.
- <sup>3</sup> CDC STD Treatment Guidelines (<http://www.cdc.gov/std/treatment>) and STD Treatment Guide app for iOS® or Android™ smartphones and tablets is available free from CDC at <http://www.cdc.gov/std/std-tx-app.htm>.
- <sup>4</sup> Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance*, 2014. Atlanta: U.S. Department of Health and Human Services; 2015 <http://www.cdc.gov/std/stats14/surv-2014-print.pdf>.
- <sup>5</sup> CDC syphilis home page <http://www.cdc.gov/std/syphilis/>.

### QUESTIONS ABOUT ZIKA VIRUS TESTING?

Visit [www.epi.idaho.gov](http://www.epi.idaho.gov) and click on the following links for Healthcare Providers under "Hot Topic – Zika Virus."

- Idaho Public Health Guidance for Zika Virus Testing
- Contact your Public Health District about testing at CDC via IBL
- Idaho Bureau of Laboratories Sampling and Submission Guide
- Instructions for Filling out the CDC Zika Test Request Form
- CDC Guidance Documents
- Call for Microcephaly Reports



# Invasive Group A *Streptococcus* Reports Remain Elevated in Idaho: *emm* typing helps investigate why

During 2012–2014, the annual number of reported group A *Streptococcus pyogenes* (GAS) infections considered invasive (collected from a normally sterile site) more than quadrupled in Idaho. Idaho public health officials implemented routine molecular-based *emm* typing on submitted isolates and conducted epidemiologic analyses in response to the observed increase. One *emm* type cluster was identified. Healthcare providers should report all cases of invasive GAS infections; laboratories are encouraged to submit isolates from invasive GAS infections to the Idaho Bureau of Laboratories (IBL) for *emm* typing.

Although most GAS infections are associated with relatively mild illnesses such as strep throat and impetigo, they can cause severe and life-threatening disease.<sup>1,2</sup> During 2014 in Idaho, 58 invasive GAS infections were reported, a 140% increase compared with 2013 (n=24) and a 427% increase compared with 2012 (n=12). The relative increase in the number of invasive GAS cases reported in 2014 was noteworthy when compared with 2012 and 2013 reports; preliminary 2015 data indicate that the upward trend is continuing in Idaho.

Surveillance data illustrate that reports of invasive GAS disease vary spatially and temporally, possibly reflecting variation in a population's susceptibility or virulence of circulating GAS strains.<sup>5</sup> In response, and in an attempt to explain the observed increase in invasive GAS infections reported in Idaho, the Bureau of Communicable Disease Prevention, Epidemiology Program collaborated with IBL to implement routine performance of *emm* typing on submitted samples to enhance surveillance information. *Emm* typing, which is the sequencing of a portion of the *emm* gene that encodes for M protein serospecificity, allows laboratorians to classify the M protein of the cell wall, a key virulence factor.<sup>3</sup> Pairing *emm* typing with clinical information obtained from case investigations conducted by local

Public Health District (PHD) epidemiologists will increase our knowledge of the association between *emm* type and severity. Identification of *emm* type in these Idaho clusters and prevention of risk factors associated with certain *emm* types could help prevent further spread of GAS and severe infections.

In August 2014, IBL utilized the Idaho Sentinel Laboratory Response Network to disseminate a request for invasive GAS isolates to be voluntarily submitted for typing. Subsequently, thanks to the efforts of the many free standing and hospital based sentinel laboratories in Idaho, IBL received 64 GAS isolates for *emm* typing, representing 71.1% of all invasive GAS infections reported since the call for isolates was initiated.

Initial laboratory surveillance data reveal a variety of *emm* types circulating in Idaho. The predominant *emm* types identified include *emm* 1.0 (9.4%), *emm* 11.0 (7.8%), *emm* 12.0 (14.1%), and *emm* 28.0 (12.5%) which, according to the Centers for Disease Control and Prevention (CDC) are strains commonly found circulating in developed countries. Since *emm* type molecular surveillance efforts were initiated in Idaho, one spatio-temporal cluster of *emm* 59.0 invasive GAS infections has been identified. A literature review indicated that the most significant documented *emm* 59.0 event occurred in Canada during 2006–2009; investigators described this *emm* type as “hypervirulent,” rapidly spreading to every Canadian territory within a few years.<sup>4</sup> The CDC Active Bacterial Core Surveillance Program reported *emm* 59.0 cases in Minnesota, New Mexico, and Oregon in 2013.<sup>2</sup> Major risk factors associated with *emm* 59.0 GAS infections in the United States and Canada include alcohol abuse, homelessness, hepatitis C infection, and illicit drug use,<sup>4</sup> although none of these risk factors were reported among patients included in the Idaho cluster.

As the number of isolates submitted to IBL for *emm* typing increases from across the state, a refer-

ence database of circulating invasive *emm* types can be produced, and more substantive trends in molecular *emm* clustering can be identified. PHD epidemiologists continue to investigate reports of invasive GAS infections to characterize health status, determine risk factors or infection, identify potential routes of exposure, and prevent outbreaks. These collaborative activities will enable public health officials to build a body of knowledge on invasive GAS infections by *emm* type, review characteristics of cases clustering by *emm* type, and learn more about risks for infection with the goal of improving public health intervention and prevention strategies in Idaho.

## References

- Centers for Disease Control and Prevention. (2014). *About Group A Strep*. Retrieved from <http://www.cdc.gov/groupastrep/about/index.html>
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## ONGOING OUTBREAK CONTINUED

### BOX 2. RECOMMENDATIONS FOR PROVIDERS

#### Identification of syphilis

- Maintain a high index of suspicion for syphilis when working with patients whose behaviors carry risk for syphilis infection or who report symptoms that might be indicative of syphilis.<sup>5</sup>
- All persons at increased risk for syphilis should receive testing:
  - MSM who engage in high-risk sexual behavior,
  - sexual contacts of persons with syphilis,
  - persons diagnosed with HIV,
  - commercial sex workers or persons who exchange sex for drugs, and
  - persons in adult correctional facilities.
- Outbreak recommendations for third trimester and delivery syphilis screening include women with:
  - increased risk according to the above criteria,
  - multiple sexual partners,
  - current alcohol or substance abuse, or
  - diagnosed STD.

#### Treatment

- Refer to the CDC 2015 STD Treatment Guidelines.<sup>3</sup> Treatment regimens vary depending on infection duration, pregnancy status, evidence of neurologic or ocular involvement; treatment also varies for infections among infants and children

#### Preventive treatment is recommended for persons who have had:

- Sexual contact with a person with early syphilis within 90 days preceding the diagnosis (even if serologic test results are negative).
- Sexual contact with a person with early syphilis >90 days before the diagnosis if serologic test results are not immediately available and the opportunity for follow-up is uncertain.